

Air Force **CIVIL ENGINEER**

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**60 Years of Civil
Engineer Support**

Civil Engineering: Heritage to Horizons

As the United States Air Force celebrates 60 years as an independent service, it's appropriate that we reflect on the history of "aviation engineers."

Civil Engineering has a rich and celebrated heritage dating back to long before the Air Force was a separate service. From its humble beginnings as a small unit within the Army Signal Corps prior to World War I, through civil engineering's tenancy in various organizations within the Air Service and later the Air Corps, small, dedicated groups of engineers handled facility and installation maintenance. When the Army Air Forces was established and began to expand, it became apparent that this new organization needed its own engineers who were well-versed in airfield construction and other maintenance and construction capabilities in support of the flying mission.

These Aviation Engineers were experts in both combat and engineering functions. Later, Airborne Aviation Engineers were organized to precede other troops into the combat zone to repair or construct airfields. When the Air Force became a separate service, Air Installation Officers were responsible for repair and maintenance of facilities and infrastructure. Since then, Air Force engineering functions have gone through a number of changes, including elevation to the Directorate of Installations, followed by redesignation as the Directorate of Civil Engineering. Installation Officers became Installations Engineers who became Base Civil Engineers.

In many ways, our ongoing transformation efforts are both a continued evolution of the current civil engineer construct and a return to our "installation engineering" roots. By reevaluating the capabilities required to perform our duties today and in the future, we are reinventing Civil Engineering to focus on our key competencies. Our readiness and emergency management focus is being even more clearly defined at all levels. Asset management will ensure that we are actively managing all real property, infrastructure, and natural infrastructure from a comprehensive planning and life-cycle standpoint. Airborne RED HORSE has filled a critical capability while harking back to the Airborne Aviation Engineers of the past.

This is truly an exciting time to be a part of the Civil Engineering community. As we transform all levels of our organization and reengineer our critical processes, I'm calling on every Airmen in Civil Engineering to be a part of the effort. From Aviation Engineers to Base Civil Engineers, heritage to horizons, Air Force civil engineers are building on the foundation of our past to meet the challenges of the future.

Del Eulberg
Major General, USAF
The Air Force Civil Engineer



From the Top



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Back cover: Members of the 325th CES Natural Resources Flight regularly stage controlled burns on Tyndall AFB, Fla. These planned fires are closely monitored, and are necessary to burn off underbrush that might otherwise contribute to a wildfire. (U.S. Air Force photo; treatment by Mr. Guy Ivie)

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On the cover: An Air Force civil engineer performs maintenance on runway lights in Korea during the winter. The runway is made of pierced steel plank. (U.S. Air Force photo)

Transforming Air Force Firefighting

Maj Gen Del Eulberg
The Air Force Civil Engineer

Over the past year, we have undertaken an intense effort to transform Air Force Civil Engineering to better support a 21st century Air Force. A large part of our transformation involves a re-look at the operational procedures and business practices in our Fire Emergency Services flights. Every aspect of FES was meticulously scrutinized, leading to decisions that will change the way we conduct future business in our FES flights. These decisions, and the rationale supporting them, have been thoroughly discussed and publicized, so now it's time to focus on the underlying actions needed to complete the transformation. Although planned as thoroughly as possible, this will remain, in part, a journey of discovery for everyone involved, especially our firefighters.

Our FES flights are steeped in traditions, some inherited from the national fire organizations, and others taken from our rich Air Force history. In transforming into the most effective and efficient organization possible, we have to adjust some of these traditions.

Before I begin to discuss what needs to change, I want to highlight something that we don't want to change, namely the great work our firefighters do for the Air Force.

The value of our FES flights is difficult to articulate because their greatest accomplishments are reflected in "what doesn't happen" rather than what happens during large fires or disasters that garner media attention. We can't gauge success or failure of FES flights by how fast firefighters extinguish a large fire because they rarely occur, and when they do

occur, the physical assets are often already beyond saving. We can better quantify the FES flights' value in terms of the great things they do for our Air Force. We always knew our firefighters were very important to the protection of life and property, but could not quantify how valuable.

We recently developed an informal procedure to help us understand the enormous impact our firefighters have on the lives of Air Force people. The Fire Division at the Air Force Civil Engineer Support Agency has developed a "saves" report that allows fire chiefs, through major command channels, to report the impact of actions taken by Air Force firefighters during emergency



A1C Terry Roberts, Jr., 18th CES, puts his gear on during a training event at Kadena AB, Japan.
(photo by A1C Sheila DeVera)

operations. We were impressed by the tremendous impact our firefighters have on the lives of the people on our installations, not to mention those living off base. Just in the period from October 2006 through March 2007, our firefighters “saved” 41 lives on our installations. This number does not include the numerous “assists” where our firefighters helped others save someone. What an awesome accomplishment! It doesn’t stop there. Over the same period, our firefighters also saved a mission-essential facility, six military family housing units, and an aircraft. Altogether, they helped the Air Force avoid over \$370M in losses — in just six months!

These “saves” benefit the Air Force in a very tangible way. They justify our continued investments in our FES flights in both training and equipment, and testify to the tremendous capability that exists within these teams.

As we developed our plans for reshaping the FES flights, we were careful not to diminish their capability to achieve such saves in the future. But we do expect substantial changes in the way they operate. These changes are reflected in the Concept of Operations for Fire Prevention and Consequence Management, which I tasked HQ AFCESA to compile with input from the major commands. This CONOPS communicates to our FES family — and, more importantly, to those we protect — the degree of service we will provide. It serves as a benchmark of our future FES operations, some of which I’ll discuss now.

A crucial requirement for reshaping was to determine exactly what we expect from our FES flights. We have concluded that the phrase “employ available resources effectively to manage FES emergency events” best captures that expectation. This phrase

Firefighters from the 100th CES joined firefighters from the Suffolk Fire Service to quell a blaze soaring 50 feet high near RAF Mildenhall, England. Together, they contained the fire, preventing nearby structures and vehicles from being consumed. (photo by SSgt Valerie Smith)



includes two key words: “available” and “manage.” By using “available,” we dispel the notion that the FES flight has to provide a level of service that is only possible when all of the authorized resources are at hand. FES flights are expected to operate within the limits of available resources: vehicles that are in service and firefighters that are available to work. We also expect the fire chief and fire marshal to inform installation leadership when the mission is potentially

Firefighters perform an exterior attack on a fire in the Army Motor Pool June 19 on Camp Adder, Iraq. (photo by MSgt Robert W. Valenca)



impacted and to advocate risk mitigation measures, and we expect leadership to listen. The use of “manage” in the phrase indicates that FES flights are expected to manage the event to the best of their abilities.

This expectation represents a shift from total risk avoidance to risk assessment and management. Risk management is a tough concept to swallow for those who want to be able to handle any potential emergency — even if it happens only once in a lifetime. However, the reality is that the Air Force can’t afford the resources required to support such a capability. Consequently, the focus of our FES flights has to be fire prevention and early intervention. Early response is the most critical component of fighting a fire and modest numbers of firefighters are needed for early intervention. If one vehicle and crew gets there soon enough, they can manage most events. But if a response is delayed, often the asset (facility or aircraft) is a loss and the value of having additional on-duty firefighters diminishes.

As we adapt to risk assessment and management, we have to alter our traditional fire protection mindset by relying more on our emergency response history to identify and assess risks. We must use this information to better manage risks and resources.

Our firefighters are our most important resource, and we have to place more value on their training and general readiness. Sound risk assessment and another look at established stand-by taskings should preclude us from losing valuable training time and prevent the malposition and misuse of firefighting teams as the default operational risk management remedy for others. We’re establishing a series of metrics that we’ll use to monitor firefighters’ activity so we can ensure optimal use of this valuable resource.

We will monitor the “tempo” of our firefighters. We will treat firefighters’ off-duty time just like we treat weekends for other civil engineers. We will insist that firefighters work no more than 72 hours a

week unless there is compelling reason to do so. To that end, we included a requirement in the Metrics and Reports section of the CONOPS to report how often the off-duty time of our firefighters is interrupted.

We will also monitor the number of false alarms our firefighters respond to and drive the number down. False alarms are not only a nuisance to our facility occupants, they impact training and can result in a crew being out of placement for a bona fide emergency event. Moreover, they result in occupant complacency, which could endanger evacuation and response.

Finally, we will continue to monitor training and response times and require that all the data be reviewed and vetted through senior installation leadership.

I have asked my AFCESA fire experts to continue to shepherd this effort. They will keep me apprised on any impacts that FES reshaping may have on our firefighters and their ability to respond; we may have to make adjustments as we journey through the implementation process. I'm confident that these changes will provide the essential support needed by our Air Force customers.

As we implement our Transformation Plan, our FES flights will undergo many changes, but their value and importance will not change. They have the responsibility of ensuring the safety and well-being of our personnel and their families and protecting billions of dollars worth of Air Force assets. I am extremely proud of our firefighters. They are the best in the world. As we change for the future, we will work hard to forge new traditions.

Fallen Firefighter Memorialized at Balad



At Fire Station Number One, Balad AB, Iraq, the Airmen and Soldiers of the 332nd Expeditionary Civil Engineer Squadron's Fire Protection Flight gathered on May 4, 2007, for the unveiling of a memorial erected in honor of SSgt Ray Rangel, who died in 2005 while on duty with the squadron in Iraq.

"When our rotation arrived here [AEF 5/6], we all knew of the passing of Sergeant Rangel while performing firefighter duties in Iraq," said CMSgt Kevin Remedies, 332nd ECES fire chief, during the ceremony. "We got together

to design and construct a lasting memorial in his honor at our new station. We made a Maltese cross out of a Humvee door and placed it appropriately as part of a monument for our memorial to symbolize his sacrifice."

Also part of the memorial is a barrier art mural depicting a firefighter in front of the New York City skyline and the statue of liberty with a message that reads "Honoring Yesterday's Heroes, Today's

Warriors, and Tomorrow's Leaders." The U.S flag proudly waves on a flagpole in front of the wall.

SSgt Rangel died on February 13, 2005, while responding to a rescue call for several Soldiers trapped in a Humvee that had overturned in a canal full of rushing water. He was 29 at the time, deployed from the 7th CES, Dyess AFB, Texas. According to CMSgt Remedies, SSgt Rangel is the only DoD firefighter to die in the line of duty as a firefighter in Iraq.

Text & photo by MSgt Bryan Ripple, 332nd ECES/PA.

AFCAP Begins a New Decade

Mr. Wayland Patterson
HQ AFCESA/CEXR The Air Force Contract Augmentation Program recently turned 10, successfully completing a decade of contracted direct contingency support that began in 1997.

AFCAP was conceived as a means to leverage capabilities from the commercial sector and provide Air Force Civil Engineer and Services personnel with a means to do “more with less.” Ten years later and on its third contract, the program continues to be a significant force multiplier, not only for the Air Force, but for other government agencies as well.

For almost a decade, the military has been shifting its supply and support personnel into combat jobs and hiring defense contractors to do force sustainment, a move accelerated by force restructuring and changing resources. As the government support force ebbs, the mission can’t survive without teamwork from industry. Increasingly, some of the team members that make this happen are private-sector contractors. Overall, support functions are being made leaner, lighter and more agile, and contractor support offers flexibility. AFCAP is a tool created to capitalize on this contractor support capability and provide a bridge connecting the government and industry contractor teams.

AFCAP’s first efforts involved storm recovery operations after Typhoon Paka, with wind speeds of 150-200 mph, hit Guam in December 1997. Through AFCAP, over \$1.945K in storm damage repairs at Andersen AFB were accomplished — a very successful start for the new program. But in the second year there was no activity and AFCAP almost ceased. On the first contract, the AFCAP contractor was Readiness Management Support, a wholly owned subsidiary of a joint venture between Lockheed-Martin and Johnson Controls. After the losses due to no tasks in the second year, Lockheed-Martin pulled out.

In the third year, United States Air Forces in Europe requested AFCAP assistance and Readiness Management Support responded. In 1999, RMS supported USAFE during Operation SHINING HOPE in building refugee camps in Albania for the ethnic Albanians fleeing genocide inside Kosovo. In the wake of the Kosovo Campaign, a new federal government customer needing fast response to catastrophic world events emerged. The Office of Foreign Disaster Assistance, a subdivision of the U.S. Agency for International Development, requested AFCAP assistance to help the ethnic Albanians returning

What Is AFCAP?

AFCAP is

- a firm fixed-price, cost-plus-fixed-fee, or cost-reimbursement (cost plus award fee) contract
- a multi-year, Indefinite Delivery/Indefinite Quantity-type contract for contingent operations
- a pre-awarded, task order-style contract
- a rapid-response solution to meet urgent demands

AFCAP can be used

- to support National Command Authority requirements
- to support CONUS home station requirements while military is deployed
- to provide commercial off-the-shelf resources when WRM assets are strained
- when political or operational concerns preclude the use of military as the first option

for follow-on deployment activities such as sustainment, site restoration, recovery, and reconstitution

There are some restrictions on AFCAP use. Call DSN 5AFCAP5 (523-2275) or commercial 850-283-2275 for details.



to Kosovo with materials to rebuild their homes. Since then, AFCAP has helped OFDA provide just-in-time assistance to flood, earthquake, tsunami, hurricane, volcano, and typhoon victims around the globe.

AFCAP has provided support to all branches of service, USAID, and OFDA, as well as agencies such as the U.S. Immigration and Naturalization Service, the State Department, Department of Justice, the Federal Emergency Management Agency, the National Aeronautics and Space Administration, Homeland Security, and the U.S. International Board of Broadcasters (parent organization to Voice of America).

The period since September 11, 2001, has brought a 14-fold increase in effort for the AFCAP Program, in support for Operations NOBLE EAGLE, ENDURING FREEDOM, and IRAQI FREEDOM. The military mission, especially during the OIF build-up, was helped by the availability of a well-designed, fast-response contingent contract mechanism. For example, the ability to structure contracts into cost-plus arrangements was beneficial when AFCAP was tasked by USAFE with the stockpiling of materials and building in Turkey in anticipation of a northern front for Operation IRAQI FREEDOM. AFCAP was able to return \$116M of USAFE's funding when

this effort was curtailed after the U.S. and Turkish governments failed to agree on terms for the occupation.

The demographics of AFCAP have also changed. During the first eight years of the AFCAP contract, the tasks were weighted more toward construction and commodities tasks. Recently, over 75% of the tasks are "service" tasks such as production of electricity at Southwest Asia deployment locations, air traffic management, and operation and maintenance of infrastructure. Air Force policy does impose a few restrictions on how AFCAP can be used. The initial response and force beddown for Air Force military operations or exercise scenarios are reserved for in-house forces. AFCAP contractors are restricted from combat, but that doesn't mean that they haven't operated, at times, under risky conditions. AFCAP contract employees have resided on almost all Air Force deployed locations.

In November 2005, the third AFCAP contract commenced as the Department of Defense's first multi-vendor contingent contract mechanism. With a \$10B ceiling, this contract is in effect through September 2015 (including option years). Speed-of-response capability for urgent and compelling tasks remains, but when available, the

AFCAP's first project was storm recovery after Typhoon Puka hit Andersen AFB on Guam in December 1997. (U.S. Air Force photo provided courtesy of the 36th Wing History Office, Andersen AFB)

added competition among vendors serves to keep down overall costs of tasks. The Navy followed the Air Force lead and awarded its new multi-vendor Global Construction Contract and Global Contingency Services Contract in August 2006. The Army benchmarked AFCAP and awarded a multi-vendor contract for its new Logistic Civil Augmentation Program, or LOGCAP, contract in June 2007.

Since it began, AFCAP has awarded 518 tasks valued at \$1.62B. The program currently has 35 open tasks in seven countries with a total value of \$149 million. Recently, AFCAP was asked by the Army to complete the building of Camp Taji in Iraq. The Army concept was to complete an eight-month planning phase prior to commencement of construction. The AFCAP task was a spiral design/build concept. The

construction was completed in six months, two months before the Army's planning phase would have ended.

The military's use of contractors is not a new concept. In fact, during the Revolutionary War, private firms fed cavalry horses. AFCAP is just a modern version of an established concept, now with 10 years of proven experience. The Air Force Contract Augmentation Program moves into its second decade ready to provide direct contingency support whenever and wherever needed.

Mr. Patterson is the AFCAP program manager, HQ AFCESA, Tyndall AFB, Fla.

Author's note: For more information or to fill a contingent need through AFCAP, call DSN 5AFCAP5 (523-2275) day or night, seven days a week; the commercial number is 850-283-2275.

Below: RMS employee Mr. Bo Sistak troubleshoots a fire alarm test panel as part of an AFCAP project in Iraq.

(photo by Mr. Patrick Engman)

Right: In this AFCAP project, RMS employee Mr. Charles W. Bennett uses a crane to lift the last fuel tank from "Stryker Village" — once used to support Saddam Hussein's "Chemical Ali" troops — onto a truck. The tank will be cleaned and then reused for other Dept. of Public Works projects at Camp Taji, Iraq. (photo by Mr. Kenneth Custer)



New UTCs for CE Teams

The Civil Engineer Readiness Board recently chartered an integrated process team to review current teams from Engineering and Operations flights to ensure that they are properly postured to fight the war on terrorism. The IPT was co-chaired by members of the Expeditionary Engineering Directorates at Headquarters Air Force and Air Force Civil Engineer Support Agency and included experts from several major commands, all with extensive knowledge in the deployment and employment of CEs in contingency operations. At an initial three-day meeting in June 2006, the IPT identified inefficiencies of today's deployed force and determined that transformation of our engineering/operations unit type codes was needed.

A primary concern was that our current UTCs did not provide flexible capabilities. In this long war on terrorism, combatant commanders, or COCOMs, require specific engineer capabilities to maintain and sustain forward operating locations. Engineers are now primarily tasked with sustainment operations instead of beddown operations. Our current expeditionary engineer UTCs were based on the past war mindset of build the base, conduct the war, and reconstitute the majority of the established bases.

Another driver for change was our inability to tailor current UTCs for non-traditional taskings. Our Airmen are now involved in more joint missions, but our CE UTCs are built around Air Force missions and don't fit well into the joint environment.

We have approximately 2,700 engineers deployed at any given time, and our existing UTCs require extensive tailoring to meet current engineer demands. For example, some deployed locations require a 55-person team with specific skill sets. Although the 4FPEA was a 55-person UTC, it didn't have the right skill mix to meet the requirement. Consequently, filling a 55-person requirement for these locations required fitting together UTCs from five different bases.

The IPT discussed whether the existing UTC construct met current and future requirements. The overwhelming consensus was "no." With this in mind, the IPT developed several goals and objectives to guide the transformation process:

- Develop a modular Prime BEEF UTC construct to provide Air Force and joint base operating support, and to augment RED HORSE when needed
- Reduce UTC tailoring for sustainment operations, and reduce personnel not postured on a standard UTC
- Minimize cross-training impact on the Air Reserve Component and ensure career progression within UTCs
- Provide a flexible engineer force to COCOMs

For the personnel teams, the IPT recommended deleting the 4FPEA, 4FPEB, 4FPEP, 4FPAY, and 4F9SA UTCs and creating nine new building block Expeditionary Engineering UTCs (next page). The IPT also recommended reconfiguring the 4F9EA and 4F9EB expeditionary engineer equipment sets into six new capability-based UTCs, which would eliminate 109 4F9EP equipment packages.

The estimated completion date for the new Expeditionary Engineering UTC transformation is AEF Cycle 7, 1 & 2. HQ AFCESA has developed an equipment repackaging guide, which can be found on the CE UTC Management Community of Practice at <https://www.dmy.af.mil/afknprod/ASPs/CoP/EntryCoP.asp?Filter=OO-EN-CE-23>. Units should receive new designed operational capability, or DOC, statements in October and begin reporting on the new UTCs in January 2008. ACES-PR data fields are being updated with the new UTC data to include training and equipment lists. The current UTC data will remain in ACES-PR until all units have transitioned into the new UTCs. If you have questions, please contact AFCESA's Reach-Back Center at 888-AFCESA-1 (888-232-3721) or afcesar@tyndall.af.mil.

SMSgt Dennis Cook
Mr. Larry Lomax
HQ AFCESA/CEXX

Meet the New UTCs

New Personnel UTCs

4FPET Basic Engineer Team: This 26-person team has an officer, 7-levels, 5-levels, and a minimum number of 3-levels representing the basic engineer/operations capability, regardless of mission, which is further enhanced through additional core teams or by adding support UTCs. The IPT looked at historical and current deployment data and discovered that, no matter where CEs deploy—wartime or disaster relief—a common core of specialties is required for the mission. “Peeling back” all of the deployed locations, the IPT found a core composition of 26 engineers at every contingency location worldwide. This common core became the building block for the new UTC construct.

4FPES Command and Control (C2): A C2 UTC to be used when three or more 4FPET teams deploy to the same location. Created because the C2 piece was removed from the basic engineer team, this UTC is now part of the Command & Control Force Module.

4FPAW Operations Chief: We have 119 active duty CE Engineer/Operations chief master sergeant authorizations, but only 43 were postured on UTCs (76 were in non-standard UTC 4FZZZ positions not visible to the AEF Center). This UTC now captures all our chief authorizations and fits well when working in joint operations where a chief is required.

4FPAN Operations Superintendent: This UTC allows us to posture all of our senior master sergeants, which we have been unable to do under the existing construct. For example, 3E490 (Utilities senior master sergeant) and 3E691 (Operations Management senior master sergeant) were not on any CE UTC, accounting for 36 authorized active duty positions not tasked to any UTC. This new UTC can be used generically to fill superintendent requirements for leading deployed engineer/operations flights, and the mission capability statement allows it to be postured with any engineering/operations senior master sergeant.



SSgt Mike Sutton and TSgt Les Duncan, both of the 407th ECES, work the “Honey Wagon” detail at Ali Base, Iraq, that trucks out all latrine waste from the Air Force tent city. (U.S. Air Force photo)

4FPAL Liquid Fuels Maintenance: LFM is a small career field not required in every situation. We created a stand-alone two-person UTC to provide that capability.

4FPAM Logistics Support: In the past, supply was postured on CE UTCs. The loss of CE supply positions as a result of PBD 720 created the need to posture a stand-alone capability.

4FPSA Company Grade Engineer, 4FPSB Field Grade Engineer, and 4FPSC Senior Command Engineer: One-person UTCs that enable posturing of company grade, field grade, and senior officers not postured on the 4FPET or 4FPES UTCs.

Reconfigured Equipment UTCs

4F9ET Basic Engineer Team: Supports up to three 4FPET personnel UTCs to provide equipment for initial beddown of bare base and/or forward operating locations. May be augmented with one or more 4F9EF equipment UTCs based on mission requirements.

4F9EE Pest Management Support Set: Provides on-site pest management and disease control capability in support of deployed engineers. Designed to support an 1,100-person beddown.

4F9EH Engineer Support Set: Includes hardware and software required for precision site survey, bare-base beddown layout, and design drafting and contract management support. Used to establish, operate, and sustain contingency operating locations. Equipment set also supports natural disaster response and aircraft crash and recovery operations for precision survey requirements using global positioning system. Designed to support 1,100-person beddown operations (requires additional sets for 2,200- or 3,300-person beddown).

4F9AL Liquid Fuels Support

Set: Provides equipment to support 4FPAL UTC for fixed and mobile fuel storage and distribution systems to establish, operate, and sustain contingency operating locations, aerial ports, en route bases, and joint bases.

4F9ER Lead Non-tactical Communication

Set: Provides on-site communications capability for deployed engineers. Used to establish, operate, and sustain contingency operating locations. The set is designed to support an 1,100 person beddown (may require additional sets for 2,200 or 3,300-person beddowns).

4F9ED Follow-On Non-tactical

Communication: Provides follow-on communications capability for deployed engineers. Set is designed to provide additional communications support of beddown operations (augments 4F9ER equipment UTC).

SM Sgt Cook and Mr. Lomax, a support contractor, are Prime BEEF program managers at HQ AFCESA, Tyndall AFB, Fla.



SSgt Justin Henry, 332nd ECES, attaches 10-foot metal arms to a concrete block for placement at an entry control point at Balad AB, Iraq. (photo by TSgt Jennifer Gregoire)



Heritage to Horizons

Commemorating 60 years of Air Force Civil Engineer History

Dr. Ronald B. Hartzler
HQ AFCEA/CEBH

The Air Force's 60th Anniversary celebration commemorates the service's founding on September 18, 1947. The new service's leaders faced hundreds of issues, including the question of who was going to provide the basing and operate and maintain the infrastructure at approximately 170 bases around the world. The answer lay in the previous 40 years of engineering.

Pre-1947

Before World War I, the engineering function was a small unit of the Army Signal Corps, and construction was handled through the Office of the Chief Signal Officer. When the Air Service was established in 1918, the Buildings and Grounds Branch of the Division of Military Aeronautics inherited maintenance and construction responsibility (in conjunction with the Construction Division of the War Department) for 10 flying schools, one repair depot, and five balloon schools. In 1921, construction of Air Service projects was turned over to the Construction Service, Quartermaster Corps, which worked closely with the Air Service (later Air Corps) Buildings and Grounds office. Throughout the 1930s, the Air Corps

continued to slowly expand, with construction aided by the availability of Works Progress Administration funds. In 1940, construction of Army Air Corps facilities in the Zone of Interior was transferred to the Corps of Engineers.

For construction overseas, a new type of engineering organization was established. The growing Army Air Forces had a vital need for specialized engineers to build airfields overseas to support tactical and strategic air operations. This need resulted in the creation of Aviation Engineers — troops who were trained to construct, conceal, maintain, and defend airfields.

During World War II, more than 100,000 Aviation Engineers served in all theaters of the war, playing a vital part in the Army Air Forces' success by providing the necessary basing. In North Africa, they constructed 129 bases in only six months. In Southeast Asia, they built the Ledo Road over Burma's mountains and through its steamy jungles. In the Pacific, they turned islands into airfields for the island-hopping campaign. And in Europe, on June 6, 1944 — D-Day — the first of more than 20,000 engineers of the IX Engineer Command landed on Utah Beach; by 2115 hours that same day, they had carved out an emergency landing strip. Over the next 11 months, they built or repaired nearly 250 airfields across the continent, putting one into action every 36 hours at their peak.

A New Service and a First Test for Its Engineers

At the end of World War II, the Air Forces had a dedicated engineering capability to provide contingency basing but, in the discussions to form the new service, defense leaders decided to divide the civil engineer mission for the new Air Force. The National Security Act of 1947 made it clear that the responsibility for the operation and maintenance of airfields would lie with the Air Force, but provided no construction force for the new service. The accompanying Army-Air Force Agreement specifically gave the Army responsibility for all contract con-

WWII's Aviation Engineers included a unique construction capability—Airborne Aviation Engineers. These were specially trained and equipped units that could be transported by air to construct or repair airfields behind enemy lines or near the front lines. The units had several successful operations in North Africa and Burma and served as forerunners of today's Airborne RED HORSE. Below, an Airborne Engineer uses a miniature bulldozer to lengthen a runway at Tamu, Burma.



struction; troop construction was assumed to remain an Army responsibility as well. To carry out this work, the Army established three battalions under the SCARWAF or Special Category Army personnel With Air Force program—one fraught with problems that would soon be exposed.

The Air Force's first wartime experience came at a most unexpected location as North Korean troops began crossing the 38th parallel in June 1950. In a matter of days, SCARWAF engineers began deploying to South Korea to repair and expand existing airfields for American aircraft operations. Members of the 802nd Battalion began work on Pohang airfield, while the 822nd came from Okinawa to lay pierced steel plank on a sod runway at Taegu AB. By August, approaching North Korean troops forced both units to relocate to the Pusan perimeter for a brief time.

The SCARWAF units were woefully understaffed and poorly trained. New aircraft — larger cargo aircraft such as the C-124 "Globemaster II" and jet-powered aircraft like the F-80 "Shooting Star" and F-84 "Thunderjet"— presented engineering problems that dwarfed those faced only five years earlier by World War II engineers. They required longer and wider runways, larger taxiways and parking aprons with more stringent design criteria for gradients, clear

zones, and pavement thickness, as well as more maintenance and support facilities and larger fuel storage and munitions facilities. Airfields now took weeks and months to build instead of days.

Engineering issues had a direct operational impact on the new Air Force. According to the official history of the Air Force in Korea, "In two years of war in Korea no single factor had so seriously handicapped Fifth Air Force operational capabilities as the lack of adequate air facilities." Taegu AB presents a good example: Engineers laid the original PSP runway without adequate subsurface work and the 10,000 landings and takeoffs per month took their toll. Aircraft had to change landing gear at about 20 times the normal rate and in a five-month period the base experienced 14 aircraft accidents directly attributable to the rough runway. By May 1951, the runway went to pieces and the F-80s had to pull out and fly from bases in Japan.

Eventually, sufficiently trained engineers with functioning equipment began arriving in Korea to build all-weather, 9,000-foot runways at Taegu, Osan, and Kunsan. By the end of hostilities in 1953, engineers had built or repaired 55 separate airfields from



The SCARWAF emblem



Over the years, the work has been much the same, but the titles have ranged from Post Utilities Officer to Air Installation Officer.

Air Force engineer leaders, particularly **Maj Gen Augustus G. Minton**, stressed professionalism and registration in the 1950s and 1960s. In 1959, General Minton gained approval to rename his office from the Air Force Director of Installations to the Director of Civil Engineering. At the base level, Air Installation Officers became Installation Engineers, and finally

Base Civil Engineers. This demonstrated the change in the perception of Air Force engineers from "handymen" to professionals.

General Minton also established a professional journal for the career field. In 1960, the first issue of *Air Force Civil Engineer* was printed; it quickly became one of the most widely respected journals in the Air Force. Today, the Minton Award is given annually to the author of the best article published in the magazine.



When the **Intercontinental Ballistic Missile** became a part of the aerospace force, it automatically introduced engineering considerations as a major element for the selection and employment of weapon systems. The scope and volume of Air Force engineering increased, and the civil engineering activity was reorganized to provide for design and construction supervision of missile ground-support facilities. The designer of the missile ground environment had to work in an integrated fashion with the designer of the missile itself. The construction of dispersed missile sites at various bases presented significant difficulties in the areas of operations, maintenance, and fire protection. Equally important, the whole effort represented a turning point in how the Air Force viewed its civil engineers, as professional engineers in their own right and part of the forward-looking aerospace team.

which the Air Force flew nearly 700,000 sorties.

Professional Force

As the new Air Force grew in confidence and status, the workforce responsible for the operation and maintenance of its air bases experienced a decade of increased respect and authority. Engineers were involved in several special programs during the 1950s that

would change their image and role within the Air Force. Because of the high level of activity in the 1950s, the Air Force elevated the Directorate of Installations to Assistant Chief of Staff level from 1954 to 1957 with more than 600 people assigned to the Air Staff office.

The growth of Air Defense and Strategic Air Commands' missions and aircraft meant additional basing. Joining refurbished WWII bases, new installations began to appear across the continental United States, from Limestone (later renamed Loring) AFB, Maine, to Glasgow AFB, Mont. Housing was badly needed, and the tremendous growth in family housing with the Capehart-Rains and Wherry Housing programs brought a new requirement for civil engineers across the Air Force.

The design and construction of the ballistic missile early warning sites presented unique opportunities for civil engineers. Extending across the northern U.S. and from Greenland to Alaska, these sites were constructed under conditions that had never

before been encountered and required ingenuity and perseverance to overcome.

While engineers made great progress in their peacetime roles, their wartime mission was in disarray. Deputy Secretary of Defense Reuben B. Robertson, Jr., summed up how nearly everyone felt about the SCARWAF program in 1955: “[T]he ... arrangement is unsatisfactory because it is administratively cumbersome, is not sufficiently responsive to the needs of either the Air Force or the Army, and its costs are excessive and not commensurate with values received.” Despite the Air Force’s request for permission to use the 30,000 SCARWAF authorizations to organize its own contingency engineering function, the Secretary of Defense decided to just abolish the program and leave the engineers with the Army. Thus, the Air Force was without its own troop construction capability until the establishment of the RED HORSE program in 1965.

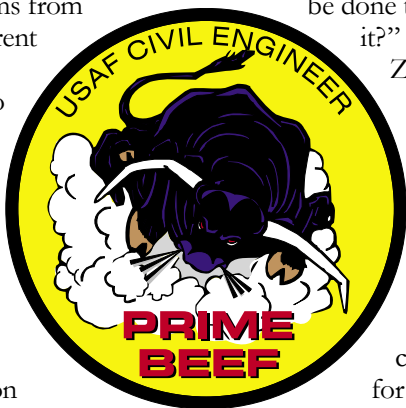
Vietnam, Prime BEEF, and RED HORSE

A series of international crises, such as the Lebanon Crisis of 1958 and Berlin Crisis of 1961, highlighted the need for Air Force engineers who would be properly trained and equipped to either deploy or recover air bases from natural disasters or attack. Brig Gen Oran Price, USAFE deputy chief of staff for Civil Engineering, recalled that one time they scoured the entire command and could not find a craftsman with the required skills who had the necessary vaccinations to deploy. They had to rely on contractors to provide engineering support.

In 1963–1964, a joint Civil Engineer/Manpower and Organization study group met to determine what the Air Force required to fulfill its combat support mission. The result — the Prime Base Engineer Emergency Force (BEEF) program — established a worldwide contingency capability for Air Force CEs based on USAFE’s newly developed mobile team concept. Prime BEEF’s first deployment was to San Isidro AB, Santo Domingo, as part of a combat support group for the U.S. Army troop airlift to the area.

During this same period, events in Southeast Asia were heating up. As American involvement ramped up, CEs struggled with manning and supply shortages at many locations as they operated and maintained facilities and utility systems. Supported by hundreds of unskilled local nationals, the engineers rotated in and out on 365-day tours.

May 1965 was an eventful month for Air Force civil engineering: the need for Prime BEEF teams was validated and RED HORSE was born. On May 15 at Bien Hoa AB, a fully-loaded B-57 was preparing for an armed reconnaissance mission when the munitions suddenly exploded into a conflagration that destroyed or damaged 45 aircraft parked on an open ramp and killed or wounded more than 100 people. A call went out for Prime BEEF teams to help protect the vulnerable aircraft at Vietnamese bases. In August, Prime BEEF teams from three different commands deployed to construct the new Armco steel-bin revetments at Da Nang, Bien Hoa and Tan Son Nhut ABs; finishing 120 days later, they had constructed more than 11,000 linear feet of revetment. Between 1965 and 1968, more than 1,600 people on 60 Prime BEEF teams supported urgent facility requirements in Southeast Asia.



On May 10, 1965, Secretary of Defense Robert McNamara sent Secretary of the Air Force Eugene M. Zuckert a brief note that changed Air Force civil engineering forever. He stated, “I understand the Marines will move from a Viet Cong-controlled undeveloped land area at Chou Lai to a 4 squadron operational field in 28 days, during which they will construct an 8,000 ft. runway. Does

the Air Force have the similar capability? If not, what can be done to develop it?” Secretary Zukert replied that the Air Force needed heavy repair units that were flexible, mobile, and geographically located for rapid response — a concise description of what became known as RED HORSE (Rapid Engineer Deployable Heavy Operational Repair Squadron, Engineer) units.

The first two units, the 554th and 555th Civil

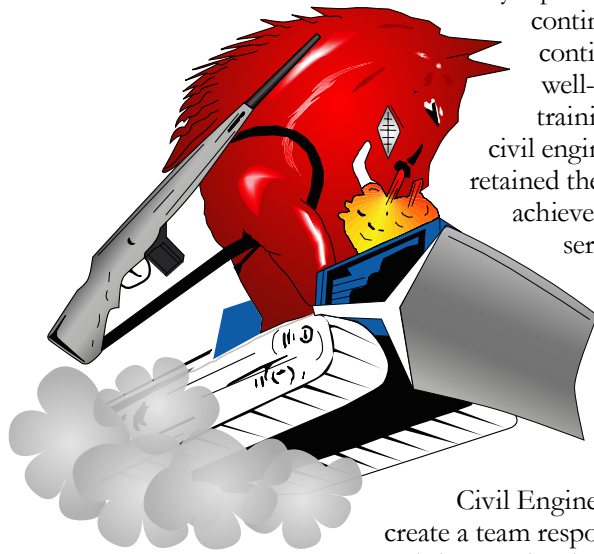


Brig Gen William T. Meredith, a retired Air Force CE, was recently honored at Air Command and Staff College’s annual Gathering of Eagles. Brig Gen Meredith spoke to the 588 Air Force, Army, Navy, Marine Corps, and international officers on his 32-year Air Force career, with special emphasis on his role during the early days of Prime BEEF and RED HORSE. He was a key member of the study group that developed the innovative Prime BEEF concept giving CE a formalized contingency capability. He later served as commander for two RED HORSE Squadrons. Brig Gen Meredith also served as the first commander of the Civil Engineer Construction Operations Group, a forerunner of today’s Air Force Civil Engineer Support Agency. The students clearly enjoyed hearing how engineers have played important roles in every contingency since Vietnam and have become a key component of Air Force combat support in today’s Air Force. Brig Gen Meredith was the first combat support person to be honored at the GoE in its 25-year history.

Engineer (Heavy Repair) Squadrons, were organized in late 1965, and trained at Cannon AFB, NM. They arrived at Cam Rahn Bay and Phan Rang in early 1966, married up with their sea-transported equipment, and began repairing AM-2 matting runways. By November 1966, six 400-man RED HORSE squadrons (554th, 555th, 556th, 819th, 820th, and 823rd) were organized and deployed to Southeast Asia. The 560th was activated as a RED HORSE training squadron at Eglin. Between 1967 and 1969, RED HORSE engineers constructed nearly 400 concrete aircraft shelters at six bases in South Vietnam.

Peacetime Force

For the first time, the Air Force had organic heavy repair units designed for contingency support with no contingency at hand. But, with well-developed equipment and training programs, Air Force civil engineer leaders successfully retained the contingency capability achieved in the 1960s despite serious cuts in military budgets and personnel.



Chargin' Charlie, emblem of the RED HORSE squadrons.

The 1970s saw important additions to civil engineering's role in the Air Force. In 1975, Air Force Services joined Civil Engineering at the Air Staff to create a team responsible for the air base and the people who live and work there. Responsibility for the Air Force environmental protection program was given to the Directorate of Engineering and Services. Terms such as environmental impact statement, installation restoration, and pollution prevention became a part of the everyday language for Air Force engineers, and management of facility energy resources became a real concern.

Air Force Civil Engineers experienced a readiness revival in the 1980s, led by Maj Gen Clifton D. Wright, Jr., and Maj Gen George E. Ellis. They brought a renewed

focus on the importance of the air base and the engineers' ability to sustain or restore operational capability after an enemy attack. This was highlighted by the massive air base operability demonstration at Spangdahlem AB, Germany, known as Salty Demo. Engineer leaders also re-energized wartime training at Field 4, Eglin AFB, Fla., with a renewed Base Recovery After Attack curric-



Upper photo: A Prime BEEF team adds water to compress the earth inside a steel revetment wall in Vietnam.

Lower photo: In early 1966, with another base needed in Vietnam by Jan. 1, 1967, Air Force engineers stepped up to the challenge. Because existing construction capabilities were overburdened, the Air Force took on the project of building Tuy Hoa AB. They hired their own contractor who, under the "turnkey" concept, provided supplies, labor, and equipment. Bringing in material over the beach at Tuy Hoa and working day and night, the civilian contractor and the 820th RHS made it possible for the base to become operational on Nov. 15, 1966 — 45 days ahead of schedule.





Although not the Cold War deployment for which engineers had prepared, they were ready. The locations were exotic, the uniforms different, and the house-keeping sets unfamiliar, but the mission was the same.

Initially, Prime BEEF teams deployed to two sites in Saudi Arabia — Dhahran and Riyadh ABs. But within a matter of weeks, they were deploying to more than 20 sites throughout the region, from Royal Saudi Air Force bases with state-of-the-art aircraft shelters to civilian airports with daily commercial flights. The engineers quickly acclimated to the weather conditions, figured out the Harvest Falcon equipment sets, and in a matter of hours began providing living and working facilities for deploying Airmen. A combined 820th/823rd RED HORSE unit, augmented by the 7319th RED HORSE Flight from Aviano AB, Italy, deployed to provide a heavier engineering capability.

In November 1990, President George H.W. Bush ordered a further buildup of American

In 1993, a 19-member team from the 823rd RED HORSE deployed to Mogadishu, Somalia. The team installed nearly 2.5 miles of revetment materials to protect Army Blackhawk and Cobra helicopters. (U.S. Air Force photo)

ulom established to prepare Prime BEEF members for their expected wartime tasks.

In 1986, Maj Gen Wright established the Readiness Challenge competition to test this capability and to highlight the important role combat support forces played in the Air Force's operational mission. Training focused on preparation for a possible Cold War-type attack, a threat which ended with the collapse of the Soviet Union.

Gulf War

During Tactical Air Command's August 1990 competition to choose who would represent them in the upcoming Readiness Challenge, teams received urgent phone calls from their home bases telling them to return immediately to prepare for possible deployment to Southwest Asia. Iraq had invaded its neighbor, Kuwait, and America was preparing to send forces to the region.

Below left: Everyone pitched in to set up TEMPER tents at this Gulf War location. Below center: U.S. forces operated from Gulf War locations ranging from remote bare bases to sophisticated host-nation air bases or airports. Each presented its own challenges for civil engineers. Below right: A deployed civil engineer monitors MEP-12 750 kW generators at a Gulf War site. (U.S. Air Force photos)



“Neither snow, nor rain, nor heat,

Like postmen of old, civil engineers deliver no matter what.

Left top: During World War II, Aviation Engineers had to battle “General Mud” during the rainy season in sunny Italy. This group of engineers is en route to make repairs to an airfield in Anzio, Italy.

Left center: Civil engineers construct a barracks at Phan Rang AB, Vietnam, in January 1966.

Left bottom: A T-4 dozer pushes a 10K forklift out of the mud and snow in Bosnia.

Center: Civil engineer troops brave the desert heat during the Gulf War to build tent cities for incoming squadrons.

Right: During the cold winter in Korea, 1953, members of the 1903rd Engineer Aviation Battalion prepare concrete forms for runway construction.

(U.S. Air Force photos)



...nor gloom of night ...”

...matter what the conditions.





In 2003, the Air Force Center for Environmental Excellence (now Air Force Center for Engineering and the Environment) was requested to assist in the **Iraqi reconstruction** program. Because of its available contracting capabilities and unique project execution model, AFCEE completed high-profile security and justice sector work such as the Iraqi Ministry of Defense, police stations, and border forts. Humanitarian work included clinics and more than 450 schools that helped make a difference for the Iraqi civilian population.

forces in the region. For Air Force engineers, it meant opening several new locations, the largest at an RSAF base under construction south of Riyadh, at a location named Al Kharj. In a matter of weeks, a combined RED HORSE/Prime BEEF team transformed a barren stretch of desert into a tent city for more than 6,000 people and an active flight-line lined with facilities for dozens of aircraft.

In December 1990, engineers from USAFE began deploying to bases in Turkey for Operation PROVEN FORCE. At Incirlik

AB, a 17-member Prime BEEF team from Ramstein AB, Germany, quietly worked inside a warehouse, ordering supplies and pre-assembling tent floors. After the Turkish government's approval on January 16, 1991, engineers, aircraft crews, and other support personnel began deploying to Incirlik, where the engineers constructed "Tornado Town" and helped bed down deployed personnel.

When Operation DESERT STORM began on January 17, 1991, engineers continued to provide basing support while firefighters responded to hundreds of in-flight emergencies. They also participated in a remarkable mission after hostilities ended on February 27. In just a matter of days at two Iraqi air bases, a combined

RED HORSE/explosive ordnance disposal team blew trenches in runways and taxiways, denying the bases for enemy air operations. Overall, during the Gulf War engineers erected over 5,000 tents, built more than 300,000 square feet of buildings, and laid enough asphalt to cover 120 football fields.

Post-Gulf War

Engineers returned home to a rapidly changing Air Force. Some faced base closures and force reductions from the post-Cold War downsizing. Several organizational changes took place as well. In February 1991, the Directorate of Engineering and Services was realigned directly under the Chief of Staff and redesignated as The Civil Engineer, an assistant chief of staff. This ended a 13-year tenure under the Deputy Chief of Staff, Logistics and Engineering. Later in 1991, the 16-year "marriage" between Engineering and Services ended when Services merged with Morale, Welfare, and Recreation. As Services was leaving, the EOD and Disaster Preparedness functions were arriving, bringing essential capabilities to the Civil Engineering team. In 1994, the functional designation Civil Engineering was shortened to Civil Engineer as base-level civil engineering squadrons became civil engineer squadrons. History once again repeated itself in 1997, when Civil Engineering became part of the newly formed Deputy Chief of Staff, Installations and Logistics, at HQ USAF.

Right: Today, Air Force CEs fill many "in lieu of" billets for the Army, pulling convoy duty in Iraq. Far right: IEDs are a constant threat in Iraq, and Air Force EOD troops shoulder a heavy portion of the load. (U.S. Air Force photos)





With the anticipated “peace dividend,” the 1990s were expected to be quiet for the American military, but for Air Force engineers, the decade was a busy one. Within days of returning home from PROVEN FORCE, USAFE engineers were called back to Turkey and northern Iraq to help feed Kurdish refugees during Operation PROVIDE COMFORT. In 1992, both Prime BEEF and RED HORSE personnel traveled to Somalia to “RESTORE HOPE” for the people there. Three years later, engineers helped bed down Air Force and Army personnel in the Balkans in support of Operation JOINT ENDEAVOR. The 1990s closed with Prime BEEF and RED HORSE engineers deploying to Albania and other locations for Operation ALLIED FORCE.

A New Millennium

The new millennium was ushered in with tragedy on September 11, 2001. Engineers continued a tradition of responsiveness, deploying to sites in countries known collectively as the “Stans,” and to better-known bases such as Al Udeid AB, Qatar; Masirah Island, Oman; and Al Dhafra AB,



United Arab Emirates. During Operation ENDURING FREEDOM, the Taliban government in Afghanistan was removed from power and engineers began rebuilding bases in that country.

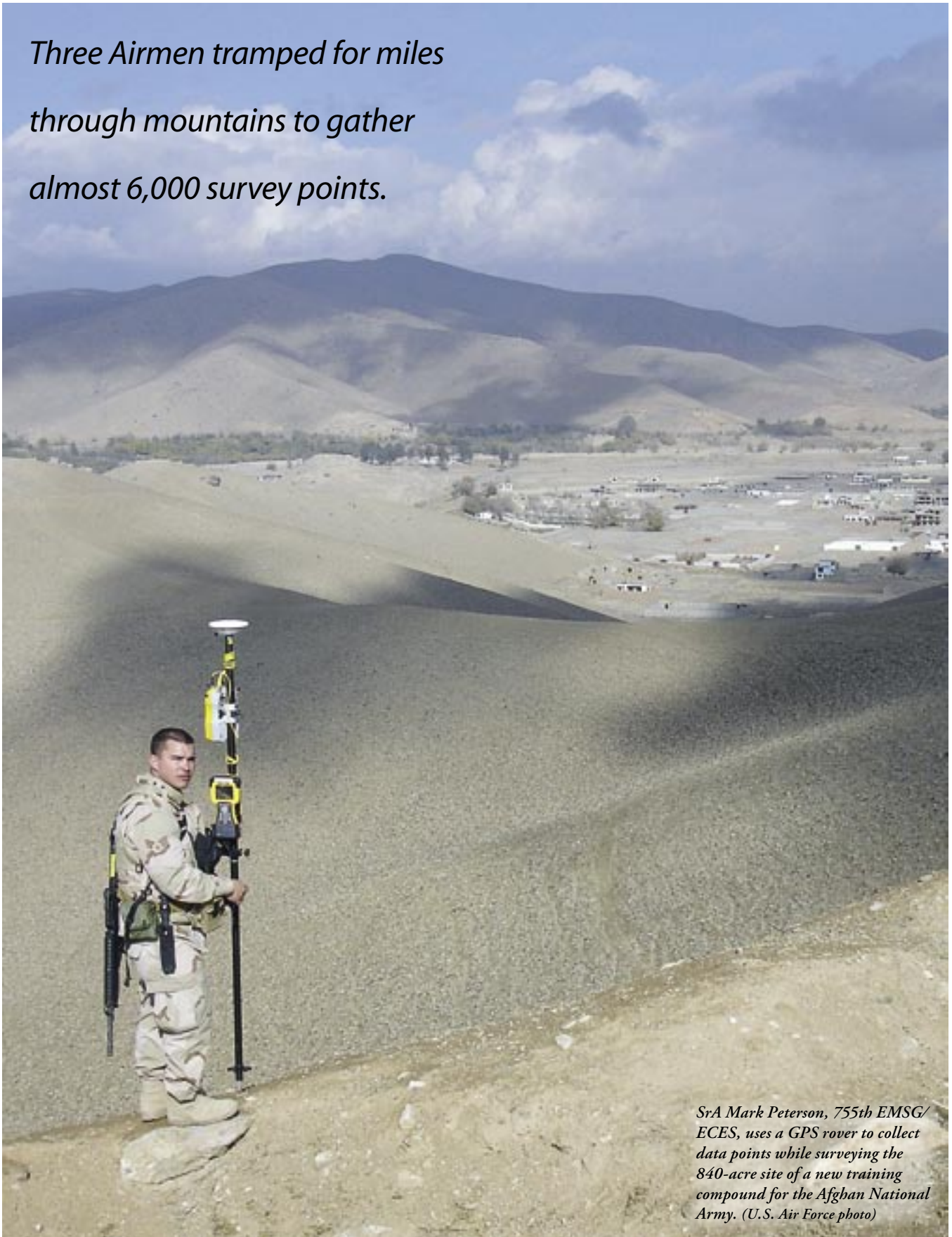
In March 2003, Operation IRAQI FREEDOM began and engineers once again bedded down people and aircraft throughout Southwest Asia. During the initial phase of combat operations, more than 4,500 engineers deployed in support of OIF. They established 12 new bases and expanded the mission on the 10 existing bases on the Arabian Peninsula. They supported more than 64,000 Air Force personnel, in addition to various Army, Marine, and coalition forces, including Special Operations personnel. Air Force engineers placed 820,000 square yards of concrete and asphalt and constructed 3.2 million square feet of contingency facilities. They also put up 3,200 bare-base tents and installed 190 miles of expedient water piping.

In recent years, engineers have taken on a new mission by providing direct combat support to U.S. Army units in Iraq and Kuwait. Because of a shortage of Army engineers, both Prime BEEF and RED HORSE members have provided heavy construction, utility, design team, fire, and EOD support. A significant percentage of deployed Air Force engineers are currently conducting these “in lieu of” missions.

For more than 60 years, engineers have been a vital component of aerospace power. From Korea to Iraq, they have fulfilled an important peacetime and contingency role by providing the basing required to sustain American air power. Although many aspects of the engineer’s role have changed over the decades, the engineer’s commitment to the mission and the pride in seeing it fulfilled have remained constant. Whether supporting a contingency, performing disaster relief and humanitarian work, or protecting the environment, engineers will continue their tradition of excellence as they build the platforms to allow the Air Force to fly and fight in air, space, and cyberspace for the future.

Dr. Hartzler is an Air Force civil engineer historian at HQ AFCESA, Tyndall AFB, Fla.

Three Airmen tramped for miles through mountains to gather almost 6,000 survey points.



SrA Mark Peterson, 755th EMSG/ECES, uses a GPS rover to collect data points while surveying the 840-acre site of a new training compound for the Afghan National Army. (U.S. Air Force photo)

EAs Support Joint Special Ops in Afghanistan

It's become almost commonplace in this day and age of joint, coalition operations. Three Air Force engineering assistants, deployed to support an Army airfield in Afghanistan, went "outside the wire" to pave the way for a future multinational special operations training site. During their two-week mission, the three Airmen tramped for miles over mountains up to 2,000 meters tall and gathered almost 6,000 survey points. They collected data on dozens of existing buildings as well as utilities, roads, terrain, and even unexploded ordnance. They lived with elite Special Operations troops, worked beside Afghan National Army soldiers, and befriended local farmers and children.

"Our project emphasized the cooperative nature of the military these days," said one team member, TSgt Ricky Barnett, who was deployed from Misawa AB, Japan. The other two team members were SrA Christina Magdaleno from Luke AFB, Ariz., and SrA Mark Peterson from Eielson AFB, Alaska.

Their mission was to survey the 840-acre site of a new training compound to be constructed in the mountains of eastern Afghanistan. There were millions of dollars of construction on the horizon, with a potential to be delayed from lack of available field data. The site had seen numerous uses over the last few decades, including Soviet training and occupation by Taliban forces, and was a jumble of new, old, and unknown facilities. It was also littered with hundreds of UXOs, which necessitated careful footwork.

Despite the 14-plus hour days spent in full combat gear, SrA Peterson said it was "the most exciting thing I've done as an EA."

"At one point, we were about one thousand meters above the valley we were surveying," said SrA Magdaleno. "At either side of the vehicle, you didn't see the ground you were on, only the valley far below. The drive up there took my breath away."

The job wasn't done when the field work was complete. After five days in the field, the EAs returned to Camp Eggers near Kabul to turn the raw survey data into a detailed plan for the future compound. The team started by linking the survey GPS data to worldwide GIS sources, allowing them to precisely determine locations and elevations of all the existing features. Then, working closely with engineers from the Combined Security Transition Command – Afghanistan and the U.S. Army Corps of Engineers, they assisted in drafting a full master plan, including 10 phases of construction, for 85 facilities estimated at over \$39M.

"This was the closest thing to a bare base layout I had ever done," said SrA Peterson, referring to the EA training task of laying out a contingency airbase from scratch. "It was nice for all of us to be able to see the end result of the hard work."

The new facilities, including billeting, dining, admin, classrooms and training ranges, are planned to be built over several years, and will be used to train Afghan National Army troops in modern military operations.

"If we had contracted this project, it would have required six months to complete and would have cost \$200K," said Maj Rob Moriarty, deputy engineer from the Combined Forces Special Operations Component Command. "These three Air Force EAs provided exceptional support. They were incredibly professional, and tirelessly worked many long hours to get the job done in a very limited window of opportunity."

Maj Duston is the Engineering Flight Commander, 35th CES, Misawa AB, Japan. He was deployed to Bagram AB, Afghanistan, where he was Deputy Director, Public Works.

Maj Mathew Duston
35th CES/CEC

FET Keeps Bagram Improving, Growing

SSgt Oshawn Jefferson
AFN-Afghanistan

Increasingly in Operations ENDURING FREEDOM and IRAQI FREEDOM, U.S. Air Force Airmen are accepting “in lieu of” taskings to allow Army units an opportunity to recover. One such team that showcases the Air Force’s core values on a daily basis is the Facility Engineer Team at Bagram AB, Afghanistan.

“FETs deploy during wartime to conduct Directorate of Public Works’ base operations, environmental, and facility assessment missions,” said Lt Col Gregory Cummings, 755th Expeditionary Civil Engineer Squadron commander, deployed from Langley AFB, Va. “When we first received the task order for this deployment at our home stations, the term FET was unknown to us. However, once we got our boots on the ground and began operating within this organization, we proved the Air Force was part of the joint force team focused on the mission.”

The 755th CES has responsibility for the FET, as well as for operational and administrative control of more than 80 Air Force personnel (including explosive ordnance disposal, fire, readiness, logistics, intelligence,

and information management) spread across more than 20 locations in Afghanistan.

“We are Airmen filling requirements that combatant commanders need to execute their missions,” said SMSgt Andrew Drummond, 755th ECES superintendent, deployed from RAF Lakenheath, England. “With the plethora of requirements out there, it is only right that we lift and shift to fill the breach.”

Bagram’s FET has accomplished many things during its time here, including networking the use of more than 60 escorts to support more than 300 construction contractors on a daily basis, and synchronizing more than \$300M worth of current and upcoming construction through bi-monthly meetings with more than 15 engineer and functional stakeholders. Members of the team mentor local engineers in honing their design skills, while producing functional products and leveraging design-bid-build and design-build capabilities for multimillion dollar programs. The program force-multiplies customer support, and meets timelines and gains project funding through solid justification.

“A lot goes into the projects we do,” said SSgt Julio Morelos, a 755th ECES engineering technician from Eglin AFB, Fla. “Before we can do anything, we have to coordinate with outside agencies that are just as important to construction as the FET.”

One of the most visible projects the FET team is working on is the expansion of Bagram, the primary staging hub for coalition forces entering and leaving the Central Asian States area

SSgt Julio Morelos, 755th ECES engineering technician, talks with local contractors about the expansion project. (photo by the author)





SSgt Rebecca Cook, 755th ECES engineering technician from Eglin AFB, Fla., and expansion project manager, performs a fence tie inspection at the expansion project. (photo by the author)

of operations. The Islamic Republic of Afghanistan Minister of Defense and a U.S. representative recently signed an Accommodation Consignment Agreement to address force protection requirements, varied missions, and surges in population.

“This agreement enabled the United States to expand the base by a few thousand acres,” said SSgt Rebecca Cook, a 755th ECES engineering technician from Eglin AFB who is the expansion project manager. “One of the unique processes added to the normal construction procedures here is that all construction areas must be cleared of mines and unexploded ordnance prior to starting work. All of our efforts are synchronized very

closely with the Mine Action Center and their supporting coalition forces and contractors to ensure the safety of workers throughout the construction cycle.”

Once finished, the expanded area will be used for Army support facilities for the receiving, staging and onward integration mission. Included will be a new gym, dining facilities, a multi-purpose facility, a contractor village for large military construction projects, surge housing, war reserve material storage, a landfill with an incinerator, and a wastewater treatment plant.

“The [dining facility] will feed everyone on that side of the runway, stopping the mass transit requirement

to get folks from one side to the other for breakfast, lunch, and dinner,” said Maj Bruce Jones, 755th ECES chief of engineering from Brooks City-Base, Texas. “The movement of the current landfill will create safer air traffic, as the birds will not be so close to the end of the runway.”

These members of the 775th ECES continue to prove the Air Force’s willingness to pitch in wherever and whenever the need arises.

HORSE Power at the Border

Capt Josh R. Aldred
819th RHS/DE

It was late January in southeast Arizona and the temperature was slowly climbing into the 60s. A rust-colored blanket of mud and dust covered our boots as we set the pieces in motion to begin our mission. Several days before, we had been welcomed to Arizona with a layer of snow and high temperatures in the 40s—not much of a departure from the weather back home, 1,500 miles away in Great Falls, Mont. We welcomed the change in weather as the last bit of snowmelt soaked into the ground. The rest of our team and 45 short-tons of heavy equipment were due to arrive at Fort Huachuca that night on a C-5 flight. Finally, the stage was set—after several months of thorough planning, the HORSE was ready to officially begin work the next day for Joint Task Force North Engineering Support Mission 07-4157 in Naco, Ariz.

The next 40 days saw a flurry of activity in the dusty border town as 36 members of the 819th RED HORSE Squadron from Malmstrom AFB converged to assist the U.S. Border Patrol with improving its tactical infrastructure at a location approximately four miles west of the town. Our primary mission included constructing three-quarters of a mile of improved gravel

road, installing concrete low-water crossings and vehicle barriers at four locations, and installing one half mile of security lighting. Over the course of the 40 days, our crew emplaced nearly \$700K in materials along the southern border and completed the mission under budget and ahead of schedule. We also took on nearly a dozen additional projects to assist the Border Patrol with

their maintenance schedule, saving them thousands of dollars in the process.

Mission planning began in September 2006 when our unit received a request for forces from Joint Task Force North. Since 1989, JTF North (formerly JTF-Six) has provided military support to the War on Drugs and, more recently, Homeland Security and the War on Terror. The current emphasis on border security has shifted focus for military heavy engineering units from combat support to supporting security initiatives on our nation's borders. Our unit was the first active-duty Air Force engineering unit tasked with a mission for JTF North. The training value alone was justification for accepting the mission, especially since our next deployment to the theater is tentatively planned for fall 2007.

The scope of the mission was unusual in many ways. We were under the tactical control of a joint command and an Army brigadier general, but directly supporting and improving tactical infrastructure for the U.S. Border Patrol, a civilian law enforcement agency. The methods we used to transport equipment and personnel—military airlift and line-hauling—were a little out of the ordinary for us, but saved the government nearly \$50K in costs. JTF North secured a C-5 from the Air Force Reserve to move the heavy equipment from Montana to Arizona and back, including a trencher, a sanitation trailer, two self-contained refrigeration units, a two-and-a-half ton truck (deuce and a half), a Bobcat, a welder, two pallets of 6-inch concrete forms, and a mobile kitchen trailer. We line-hauled a \$400K GPS-enabled grader, a 5,000-gallon water truck, and a 40-foot tool trailer. The experience provided excellent training for our cargo preparation personnel (cargo was prepared in conjunction with a Phase I Operational Readiness Exercise) and our heavy equipment operators.

The mobile kitchen trailer is another unique RED HORSE capability that we used to save money and provide some great training

SrA Joshua Jankowski repairs a fence at the Naco Port of Entry that was damaged during pursuit of a stolen vehicle into Mexico. (U.S. Air Force photo)



for our Services personnel. Over 2,000 meals (breakfast and lunch daily) were prepared from locally procured food, saving over \$14K when compared to contracted meals. Lunch was delivered to us in the field, saving valuable work time.

The job site was within six feet of the U.S.-Mexican border (currently marked with a four-strand barbed-wire fence), and we had to maneuver within a 60-foot easement between the border and a rancher's private property. We had some other challenges, as well. A group of pro-immigration protesters picketed our jobsite for a short time during the last week. When the driver of a stolen vehicle being pursued into Mexico crashed into the gates and fences at the Naco Port of Entry, our welders quickly responded to repair them and maintain the port of entry's integrity.

During the mission, there were times when we had to wait for materials and parts to arrive. That allowed us to take on nearly a dozen additional projects to assist the Border Patrol with its scheduled maintenance. The previous summer, 24 security lights had been lost when two separate sections of primary cable (direct-buried in a dry wash) faulted due to flooding in the area. Our electricians found all the faults and repaired them using 500 linear feet of new primary cable, 4-inch schedule 40 conduit, and concrete slurry for encasement. Their efforts saved the Border Patrol \$13K over the cost of having a private contractor repair the faults.

The team also completed these non-primary mission tasks:

- Constructed an additional concrete low-water crossing (five were built)
- Assembled, welded, and installed 940 linear feet of vehicle barriers (240 feet more than planned)
- Repaired 4 miles of existing gravel road
- Graded 2.6 miles of unimproved road

- Surveyed three large low water crossings for the next rotation
- Removed 24 tons of scrap steel
- Repaired 100 holes in the Mexican border fence
- Removed 30 tons of concrete debris from the staging area
- Repaired 12 existing low-water crossings damaged from flooding

The result of the 819th RED HORSE's mission was a successful project that came in \$24K under budget and 10 days ahead of schedule. Our team received some valuable training, which will help us stay safe and work effectively when we deploy to the area of responsibility. We also received the coveted JTF North Unit Safety Award, the first active-duty Air Force unit to do so. But the greatest benefit of this project was leaving Naco knowing that our efforts have increased the Border Patrol's effectiveness in their mission to secure and protect our nation's borders.

Capt Aldred is Chief of Design, 819th RHS, Malmstrom AFB, Mont.

819th RED HORSE crew members pour concrete for placing fabricated steel vehicle barriers along the U.S. and Mexican border. (U.S. Air Force photo)



Can You Hear a Pin Drop?

Dr. Daryl Hammond, P.E.
HQ AFCESA/CEOA

Airplanes, cars, trains, lawn mowers, and even radios and television create unwanted sound: noise. At too high a volume, noise can be annoying and even destroy hearing. Once hearing loss occurs from noise, it will never get better.

Our auditory system is divided into the outer, middle and inner ear. The outer ear funnels down the ear canal to the eardrum, where sound is changed into vibrations. Three tiny, connected bones located in the middle ear couple the vibrations to the inner ear. In the inner ear, tiny hair cells connected to the auditory nerve change the vibrations into electrical impulses that the brain interprets.

When exposed to excessively loud noises, these tiny hair cells become disfigured, flattened, or fused together. This damage is irreversible and causes permanent hearing loss. Only by getting away from the noise or by using protective equipment can you prevent additional damage.

Protective devices must be worn consistently and correctly to prevent noise-induced hearing loss. Ear plugs are the most popular type of hearing protection; those made of yellow expandable foam that conforms to the ear canal are the most common. To be effective, they must seal the entire ear canal (see photos). Ear muffs fit around the ear to form an air seal, and will not seal properly over long hair or eyeglasses. Whether you choose ear plugs or muffs, proper fitting is essential.

Air Force Occupational Safety and Health Standard 48-20, Hearing Protection Conservation Program, explains many of the scientific terms and methods associated with measuring sound, but sorting through all the scientific jargon can be confusing. Just remember this general rule of thumb when it comes to noise: Noise is too loud when it hurts your ears or you have to raise your voice to talk to someone.

Many CE workers are exposed to dangerous levels of noise every day from vehicles, aircraft, or other machinery. AFOSH and Occupational Safety and Health Administration guidance requires workers to wear hearing protection when performing duties in a noisy environment and to be trained on the proper wear of those devices. Maximum protection can be accomplished only if hearing protectors are properly worn. Take the time to install ear plugs correctly — it may mean the difference between hearing — or not hearing — the drop of a pin!

You can obtain additional information about assessing workplace noise levels, safeguarding your hearing, and properly wearing hearing protective devices from your base bioenvironmental engineering or occupational health and safety office. Audiologists in the Aural Displays and Human Effectiveness Directorate of the Air Force Research Laboratory at Wright-Patterson AFB, Ohio, are also available to answer questions.

Dr. Hammond is The Air Force Electrical Engineer. He works at HQ AFCESA, Tyndall AFB, Fla.

Ear plugs are effective only if they are inserted properly. Information on correct use is available from your base bioenvironmental engineering or occupational health and safety office.
 (photos by Mr. Guy Ivie)



AFCESA

One of the first things visitors to the Air Force Civil Engineer Support Agency see is our mission statement, prominently displayed on the wall outside my office: “Provide the best tools, practices, and professional support to maximize Air Force Civil Engineer capabilities in base and contingency operations.” Our mission dovetails seamlessly with that of our sister agency, the Air Force Center for Engineering and the Environment. The support we each provide may differ, but by working together, we ensure that our civil engineering customers throughout the Air Force are “covered” for any and all requirements.

At AFCESA, specialized readiness, infrastructure, and field support expertise; engineering IT program management; and support for project execution and facility energy management continue to be mainstays of the services we provide to our customers. We know that the true test of a service is its value and accessibility for our customers. AFCESA has some of the best engineers in the Air Force; however, their expertise needs to be available when required. Our Reach-Back Center makes it easier for our customers to contact us and guarantees that our response is quick and appropriate—one-stop customer service.

Our mission statement is not on display just for our visitors. It’s also there for all of us working at AFCESA, to remind us every day of the important work we do. We know that, for our customers, the most important word in our agency’s name is “Support.”

Col Richard A. Fryer, Jr.
HQ AFCESA/CC



AFCEE

If someone had told me just a few years ago that the Air Force Center for Engineering and the Environment would be deeply involved in the reconstruction of Iraq, I would have tried to sell that person some ocean-front property in San Antonio.

Now, as I look back at the last three years, I see that the center has managed construction of some 80 military bases, 360 police stations, 469 schools, and 179 miles of pipeline in that war-torn country, at a cost of about \$3.5 billion. None

of this could have been done, of course, without our indispensable contracting partners and our dedicated AFCEE staff.

As of the most recent count, 22 civilians and 13 military members who have been assigned to the center at one time or another have traveled to Iraq to oversee the work being done there and to provide technical and administrative support. We have been fortunate that all our people were able to serve their tours without incident and return home safely to their families.

AFCEE is also fortunate to have people like these on its staff, men and women who are willing to put in long hours in a hostile environment so that an important mission can be accomplished.

What AFCEE does is vital to the security and well-being of our nation. That is why it gives me a great deal of satisfaction and feeling of confidence to know that we have the right people, doing the right job, in the right place.

Mr. Paul Parker
HQ AFCEE/CC



Fallen EOD Airman Honored at Balad AB and Hickam AFB

compiled from news service stories

SrA William N. Newman, an explosive ordnance disposal technician assigned to the 332nd Expeditionary Civil Engineer Squadron, Balad AB, Iraq, was killed June 7 by an improvised explosive device that detonated while he was supporting Army and Iraqi security forces. SrA Newman, 23, deployed to Balad in December 2006 from the 15th CES at Hickam AFB, Hawaii.

Memorial services were held at Balad on June 10 and at Hickam on June 13.

At the Balad service, Capt Jay Ferguson, 332nd ECES EOD commander, began his remarks with one of SrA Newman's favorite quotes, "If anyone can do it, it's me."

"All he wanted to do was to make a difference," Capt Ferguson said. "He pressed through every mission with coolness, confidence and finesse and ultimately saved countless lives of his team members, Soldiers, and local men, women, and children."

SrA William N. Newman, an explosive ordnance disposal technician, is shown in an undated photo at Balad AB, Iraq.



Co-workers described SrA Newman as one of the bravest, most proficient, courageous, and dedicated Airmen they have ever known.

"Airman Newman was one of the best who believed in himself," said SMSgt Scott McCullough, 332nd ECES EOD superintendent. "He always wanted to make a difference."

At SrA Newman's home station, Hickam AFB, family, friends,

and colleagues mourned his loss and paid tribute to him.

"Airman Will Newman is a hero," said Lt Col Dave Maharrey, 15th CES commander. "He died while defusing a terrorist IED off-base in an area where Iraqi women and children's lives were in danger."

SrA Newman's wife of almost two years, Soyong, spoke with the news media on June 12 from their home on Hickam and praised his courage and patriotism. "I'm so proud," she said. "I'm sure there were a lot of children around. I know he wanted to protect them."

Soyong's father, MSgt Michael Lester, 782nd Training Squadron, Eglin AFB, Fla., was also present and said, "I've been trying to reassure her that Will died doing what he believed in — saving lives."

SrA Newman is also survived by his mother, Ms. Geri Champion, Salt Lake County, Utah and his father, Mr. Matthew Newman, Kingston Springs, Tenn., as well as by two sisters, Elizabeth Wright and Emily Swaggerty. He grew up in the west but, after graduating from high school, moved to Tennessee. It was from there in 2003 that he decided to enter the Air Force. "When he enlisted, we discussed it and he was aware that he could be sent to Iraq," Mr. Newman said. "He was proud to do it. He was so confident in his skills and training. He was anxious to go."

Following funeral services on June 23, SrA Newman was buried in the Middle Tennessee Veterans Cemetery in Nashville, Tenn.

Compiled from news stories by SrA Olufemi A. Owolabi, 332nd AEW/PA; Mr. Jeff Nicolay, 15th AW/PA; and Mr. Nathan C. Gonzalez, Salt Lake Tribune.

Reservist Completes Third GWOT Tour

His voice was steady during most of the conversation about his three deployments since 2003 in support of the Global War on Terrorism, but when he tried to explain why he volunteered to go to Afghanistan and Iraq, Lt Col Eric Mulkey's voice changed.

"When I'm old and gray and my kids ask me what I did after 9/11, ... I want to be able to say I did something ... other than just sit around in the States and help conduct CE operations," said the reservist, a civil engineer attached as an individual mobilization augmentee to Air Education and Training Command headquarters, Randolph AFB, Texas.

As a result of his desire to do "something," he spent his first deployment in Afghanistan from October 2003 to March 2004 working on airfield construction at Bagram. He followed that up with a November 2004 to April 2005 tour of duty in Iraq, where his CE duties focused on water and wastewater management. He then returned to Afghanistan in April 2006 for a year-long deployment. At Bagram again, during this third deployment he was able to help complete the airfield project that he had helped begin on his first.

Lt Col Mulkey said he raised his hand to volunteer three times because it makes a difference — to him, his Air Force, the nation, and the

people he helps in far-off, war-ravaged lands.

"A lot of people seem to feel deployments are a drain on them. They're not something they like to do. I don't feel that way," said the 23-year reservist. "When I deploy, I feel I'm doing something that is more important than either my typical Reserve duty or civilian job. I was in the Reserve 19 years before I deployed, and that time was fine, but it wasn't much different than being a civilian engineer. You were still in America living a regular life."

That regular life for the part-time Air Force officer includes a home in Knoxville, Tenn., and a career as a civil engineer for University of Tennessee-Battelle, a company that operates and manages the Oak Ridge National Laboratory for the Department of Energy.

Lt Col Mulkey said his Reserve duty and opportunities to deploy to Afghanistan and Iraq would not be possible without the backing of his employer.

"There's unanimous support of the folks willing to put themselves in harm's way to defend the nation," said Mr. Charlie Valentine, manager of water quality programs at UT-Battelle. "Eric's Reserve duty makes him unique among us. We're proud of him and admire his patriotism and service to the country."

Mr. Michael Briggs
HQ AETC/PA



His military boss also recognizes Lt Col Mulkey's value to the team. "He's volunteered for tough jobs and tough missions over and over again," said Col Jeff Jackson, chief of environmental programs at AETC. "He's the kind of person who lives the Air Force core values."

Lt Col Eric Mulkey (center) inspects blankets before they are distributed in a Salang Valley village in Afghanistan in October 2006. (U.S. Air Force photo)

Key Personnel Changes



Col Timothy A. Byers became Brig Gen Byers on June 1, 2007. Brig Gen Byers is the Director of Installations and Mission Support, Headquarters Air Combat Command, Langley, Va., a position he has held since September 2005. He leads ACC's base and expeditionary mission support group activities for civil engineering, security forces, and contracting for 17 major bases and numerous smaller installations. He also provides direct support to the warfighter as the force provider for CENTAF and for 13 expeditionary air bases in the CENTCOM AOR.

Brig Gen Byers is a career engineer with headquarters tours at both the Air Staff and major command levels, base command positions as a mission support group and squadron commander, and a career-broadening tour with Air Force ROTC.

Col Dave C. Howe and Col Leonard A. Patrick have been nominated by the president to the senate for appointment to the grade of brigadier general. Col Howe is the Deputy Director, Installations and Mission Support and the Civil Engineer, Headquarters United States Air Forces in Europe, Ramstein AB, Germany. Col Patrick is Director, Installations and Mission Support, Headquarters Air Mobility Command, Scott AFB, Ill.

Mr. Paul A. Parker will become the new Deputy Air Force Civil Engineer, Deputy Chief of Staff, Logistics, Installations, and Mission Support, Headquarters United States Air Force, effective October 1. He replaces Ms. Kathleen Ferguson, who will be the new Deputy Assistant Secretary of the Air Force (Installations), in the office of the Assistant Secretary of the Air Force. Mr. Parker was formerly the director of the Air Force Center for Engineering and the Environment, Brooks City-Base, Texas.

The office of The Air Force Civil Engineer, Headquarters U.S. Air Force/A7C, was recently reorganized, with the following persons heading the five divisions: Col Liesel Golden, Chief, Asset Management and Operations Division; Col Joel Benefield, Chief, Planning Division; Col Sal Nodjomian, Chief, Programs Division; Col Donald Gleason, Chief, Readiness and Emergency Management Division; and Ms. Rita Maldonado, Chief, Resources Division. Col John Medeiros is the new Associate Civil Engineer, replacing Col Andrew Scrafford, who retired.

Col Kurt Kaisler is the new director of Readiness Support, Headquarters Civil Engineer Support Agency, Tyndall AFB, Fla., replacing Col Thomas Quasney, who retired. Col Kaisler was formerly Commander, 379th Expeditionary Mission Support Group, Al Udeid AB, Qatar.

Lt Col Navnit Singh is the director of the new Air Force Facility Energy Center, HQ AFCESA. He was previously the commander of the 28th Civil Engineer Squadron, Ellsworth AFB, S.D.

Col James Frishkorn now heads the Operation and Program Support Directorate at HQ AFCESA. The directorate was recently expanded to include the Engineering Operations and the Pavement Evaluation divisions.

Also at HQ AFCESA, Mr. Michael Clawson heads the new Contract Support Directorate, which includes the Sustainment, Restoration, and Modernization Division and the Air Force Contract Augmentation Program Division, as well as a flight from the Air Education and Training Command contracting squadron.

Col Keith F. Yaktus is now the Executive Director, Air Force Center for Engineering and the Environment. He replaces Col Richard Bartholomew, who retired. Col Yaktus was formerly the Commander, 62nd Mission Support Group, McChord AFB, Wash.

CE Tees Off with Tiger

One very lucky Airman at Andrews AFB, Md., was recently rewarded with a chance-of-a-lifetime opportunity. TSgt Andy Amor, 316th Civil Engineer Squadron, was chosen to play with one of the greatest golfers on the planet: Tiger Woods.

TSgt Amor represented Andrews on July 9 at the inaugural Earl Woods Memorial Pro-Am Tournament, part of the AT&T National PGA Tour event at Congressional Country Club in Bethesda, Md.

He first picked up a golf club in 1985, but he said it wasn't until 1989 that he got real serious and worked his handicap to an impressive two. He won this year's Andrews active duty tournament, which just happened to coincide with the AT&T National PGA staff searching for service members to play in the Pro-Am tournament.

The Earl Woods Memorial Pro-Am, named after Tiger Woods' father, a Green Beret lieutenant colonel who served with Special Forces in Vietnam, pairs service members with some of the best and better-known golfers in the world, including former President George H.W. Bush.

"It's very important to me that this tournament honor the men and women who serve in our armed forces," Mr. Woods said. "They put their lives on the line so that we are able to enjoy our freedom, and we'd love

for them to come out and enjoy a few days of relaxation."

No one knows whether it was a full moon or just the luck of the draw, but TSgt Amor got the call that he would be teeing off with Mr. Woods. "I really didn't think about it until everybody kept telling me about it," he said. "Everybody" included family members who flew out from Kansas City, Mo., to be a part of his "posse."

The first hole was an experience Sergeant Amor will never forget.

Mr. Woods stepped up to the par four, 402-yard first hole and drove it far down the middle. TSgt Amor's name was announced and he waved to the crowd as he placed his ball on the blue tee, 50 yards closer.

"It's amazing how quiet it got. I'm used to playing at Andrews where planes are flying and there are other noises," said TSgt Amor. "I could feel my knees shaking."

The nerves didn't unhinge the Airman as he hit it far down the fairway. "Couldn't believe it, I out-hit Tiger!"

From that point on, everything was just a dream for TSgt Amor. With his son, Drew, carrying his bag, he walked along with Mr. Woods, talking about what golfers talk about.

Mr. Ron Bickerstaff
316th AW/PA

Below left: Drew Amor caddies for his dad, TSgt Andy Amor, who was paired with Tiger Woods for the Earl Woods Memorial Pro-Am tournament, held July 4 at Congressional Country Club in Bethesda, Md.
Below right: TSgt Amor walks down a fairway with former President George H.W. Bush during the tournament.
(photos by SrA Dan DeCook)



Moving Forward by Reaching Back

AFCESA center provides worldwide CE support

Capt Chrissy Cuttita
HQ AFCESA/PA

Many people within an organization don't know what happens just outside their own office space, so imagine having to know what goes on at the more than 300 work stations located in the Air Force's "gateway to civil

Whether it's a request for on-site power production and electrical support or an airfield pavement analysis, the Reach-Back Center has the Air Force covered. The center's staff fields support for base-level and contin-

A two-person emergency management help desk has been an extension of their center since its inception. "Over 2,000 customer inquiries were referred to the help desk, which is staffed by EM experts," said Mr. Nehrings. Force protection and anti-terrorism issues are also a frequent inquiry topic; CE enlisted training issues is the most frequently requested support item.

Recently, the AFCESA Reach-Back Center began sharing information with the agency's Readiness Operations Center, a move that should give customer service an even bigger boost. The move creates "one AFCESA voice" and gives the Reach-Back Center team access to some of the important information flowing through AFCESA's Readiness Operations Center. In addition to the above capabilities, the Reach-Back Center is the focal point for the reception, analysis, and dissemination of all Air Force CE lessons learned for Airmen at every level.

The Reach-Back Center can be contacted via phone at 888-AFCESA1, stateside DSN at 523-6995, or international DSN at 312-523-6995. E-mails can be sent to afcesar@tyndall.af.mil, or through AFCESA's Web site at <https://www.mil.afcesa.af.mil>.



AFCESA's Reach-Back Center is manned by contractors Mr. Fred Nebrings, Mr. Thomas Schmidt, and Mr. Greg Hummel.
(photo by Mr. Guy Ivie)

engineering knowledge" at Tyndall AFB, Fla.

Since April 2005, a three-person team in the Headquarters Air Force Civil Engineer Support Agency's Reach-Back Center has directed the answers to more than 20,000 inquiries on products, methods, training, criteria, templates, and checklists out to customers around the globe.

"Our number one priority is to provide an answer with a first-call resolution," said support contractor Mr. Fred Nehrings, the Reach-Back Center task lead.

agency operations directly through subject matter experts at AFCESA.

HQ AFCESA has over 75 one-deep areas of expertise. Before the center existed, it was up to the customer to try to identify and connect with the correct SME. Now the Reach-Back Center does that and, with the one-stop contact, customers can be assured their request gets the proper attention. All inquiries are tracked through a computer-based ticket tracking system that gives the Reach-Back Center 100 percent visibility on all aspects of the request, from beginning to successful resolution.

CE Financial Managers Gather

More than two hundred people from locations around the world attended the 2007 Civil Engineer Financial Managers' Worldwide conference, held May 7-11 in Pittsburgh, Pa. It had been five years since the last conference, so this gathering offered a truly special opportunity for civil engineer resource advisors and financial managers to learn the latest Air Force resource management policies, hear from top Air Force CE and FM leaders, and interact with peers from bases, major commands, field operating agencies, and direct reporting units worldwide.

The conference host, Ms. Rita Maldonado, chief of the Resources Division in the office of The Air Force Civil Engineer, noted that it was a key time to bring everyone together for updates on the latest policy. She highlighted more than 20 topics that focused on the conference's theme — "Engineering a Path to Fiscal Reality" — and introduced the MAJCOM resource advisors.

The keynote speaker for the opening day was Col Charles Fulghum, chief of the Budget Operations Integration Division in the office of the Air Force Deputy Assistant Secretary for Budget. He updated everyone on the current operations and maintenance budget.

Over the next few days, attendees received briefings from key senior leaders, including Maj Gen Del Eulberg, The Air Force Civil Engineer, and Brig Gen Timothy Byers, Director of Installations and Mission Support for Air Combat Command. Maj Gen Eulberg and Brig Gen Byers presented the "big picture" for the resource advisors and commended the group for their unwavering support to the Air Force mission.

Attendees received briefings from experts in their fields covering areas critical to the resource advisors and financial managers. Topics ranged from an overview of the facility investment metric, facility sustainment model, and facilities operation model, to an update on several key Air Force CE programs, and the latest on civilian personnel career programs.

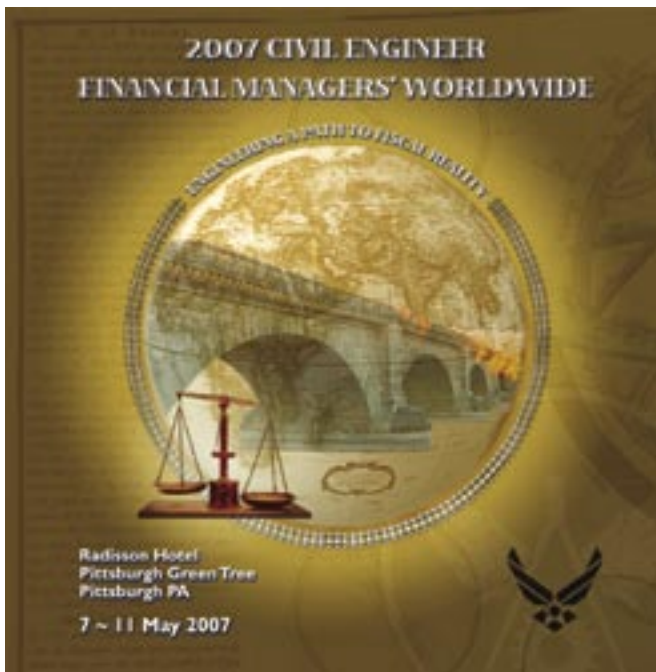
The conference provided both training and MAJCOM breakout sessions for attendees. The training covered CE O&M budget and execution; the facility investment metric and the facility sustainment and operations models; the defense finance and accounting system; and shop rates, reimbursements, and real property inventory requirements. The MAJCOM breakout sessions afforded command personnel time to discuss

specific issues with their base-level attendees and provided participants the opportunity to meet their peers and MAJCOM representatives.

The 2007 CEFM Worldwide conference was a resounding success. In addition to the intense four-and-a-half days of education, training, coordination, and networking, attendees gained a renewed vigor for their daily mission: supporting the greatest Air Force in the world.

Maj Gilpin is an RMA program analyst, Office of The Air Force Civil Engineer, HQ USAF, the Pentagon, Washington, D.C.

Maj Douglas W. Gilpin, P.E.
HQ USAF/A7CRO



Air Force Firefighters Win DoD Awards

Mr. James Podolske HQ AFCESA/CEXF Air Force firefighters recently took home five 2006 Department of Defense Fire and Emergency Services Awards, presented at the 12th annual DoD F&ES training conference in Atlanta, Ga., Aug. 24, 2007.

MSgt Shawn E. Ricchuito, Robins AFB, Ga., is the DoD Military Fire Officer of the Year. A member of the 78th Civil Engineer Group, MSgt Ricchuito received a GEICO Military Service Award and was named Air Force Association Civil Engineer of the Year and Wing Senior NCO of the Year.

TSgt Robert D. Johnston, Goodfellow AFB, Texas, is the DoD Fire Academy Instructor of the Year. Excelling in all areas of teaching evaluation, he performed flawlessly in over 900 training fires. He also led firefighters battling a 20-acre wildfire, saving nine homes.

The other three awards went to members of the 30th Civil Engineer Squadron, Vandenberg AFB, Calif.: SrA Keith D. Armour, Mr. Daniel A. Ardoin, Mr. Charles W. Brooks and Mr. John L. Markley (co-winners).

SrA Armour is the DoD Military Firefighter of the Year. He is also the 30th Space Wing Airman of the Year. A nationally registered emergency medical technician, he extricated a critically injured pilot from a battle-damaged aircraft.

Mr. Ardoin is the DoD Civilian Fire Officer of the Year. He is also the squadron, group, wing, and Fourteenth Air Force Civilian of the Year. He performed as the wildland operations commander and task force leader at five fires involving over 205K acres, saving more than \$5B in property and natural resources, with no loss of life.

Mr. Brooks and Mr. Markley are the DoD Firefighter Heroism Award winners. They performed a high-hazard airborne rescue of an ATV accident victim located 400 feet down the side of a 1,000-ft. cliff, surrounded by a wildland fire and dense smoke. On the fourth attempt, they successfully reached and extricated the victim.

Other Air Force nominees for the DoD annual awards included Mr. William A. O'Meara, 36th CES, Andersen AFB, Guam, for Civilian Firefighter; 3rd CES, Elmendorf AFB, Alaska, for Fire Prevention Program; 90th CES, F.E. Warren AFB, Wyo., for Fire Department (Small Category); and 437th CES, Charleston AFB, S.C., for Fire Department (Large Category). The nominees received Air Force-level awards during a recognition luncheon at the conference.



MSgt Shawn E. Ricchuito was named DoD Military Fire Officer of the Year. (photo by Ms. Sue Sapp)



Winners at the Air Force level, F.E. Warren AFB's fire department was nominated for Fire Department of the Year (Small Category). (U.S. Air Force photo)

Continuing Education

AFIT

Wright-Patterson AFB OH

Course No.	Title	Start Dates	End Dates
WMGT 101	Intro to Base Civil Engineer Org	01-Oct	16-Nov
WSVS 101	Services Initial Skills	09-Oct	16-Nov
WESS 030 (W)	Stormwater Management	15-Oct	19-Oct
WMGT 412	Financial Management	15-Oct	26-Oct
WMGT 421 (S)	Contracting for Civil Engineering	22-Oct	02-Nov
WESS 070 (S)	Hazardous Material Management	30-Oct	30-Oct
WENV 020 (S)	ESOH Compliance Assessments	05-Nov	08-Nov
WENV 222	Hazardous Material Management Process	26-Nov	30-Nov
WMGT 102	Intro to Base Civil Engineer Org for RF	26-Nov	07-Dec
WENV 419	Env Planning, Programming & Budgeting	27-Nov	29-Nov
WENG 460 (S)	Mechanical Systems for Managers	03-Dec	07-Dec
WENV 418	Environmental Contracting	03-Dec	14-Dec
WMGT 585	Contingency Engineer Command	03-Dec	14-Dec
WENG 470 (S)	Electrical Systems for Managers	10-Dec	14-Dec
WENG 555 (S)	Airfield Pavement Construction Insp	10-Dec	14-Dec
WENV 531*	Air Quality Management	10-Dec	14-Dec
WESS 010 (W)	Hazardous Waste Accumulation	10-Dec	14-Dec
WMGT 580	Civil Engineer Mid-Level Development	10-Dec	14-Dec
WMGT 484	RF Air Base Combat Engineering	10-Dec	21-Dec
WMGT 570	Civil Engineer Superintendent	10-Dec	21-Dec

*ISEERB-approved for all DoD components

Resident courses are offered at Wright-Patterson AFB, Ohio. Registration begins approximately 90 days in advance. Students should register for CESS courses through the online registration process. Visit the CESS Web site at <http://www.afit.edu> (under Continuing Education) for satellite (S) and Web (W) classes.

Malmstrom Firefighter Receives GEICO Award

Mr. John P. Gilmore, an assistant fire chief for fire prevention at Malmstrom AFB, Mont., recently received a 2006 GEICO Public Service Award for his volunteer work in the field of fire prevention and safety.

Mr. Gilmore and his fire prevention team in Malmstrom's 341st Civil Engineer Squadron have been named the "best fire prevention program" in Air Force Space Command, and earned four consecutive AFSPC Inspector General professional team awards. Mr. Gilmore also worked on a number of fire prevention education materials for both the base and the community. He developed the first U.S. Air Force video program to teach safe fire practices for families living in military housing. He created a comprehen-

sive training program on fire protection for missile facility personnel, and coordinated the installation of 5,000-gallon emergency water supply tanks at each facility. As a member of the Great Falls Area Safety and Health Council, Mr. Gilmore provided local families with safety and fire extinguisher training.

GEICO's Public Service Awards annually honor five civilian career federal employees and retirees for outstanding achievements in the fields of substance abuse prevention and treatment, fire prevention and safety, physical rehabilitation, and traffic safety and accident prevention.

Laura Malamud
GEICO Communications
Department



(U.S. Air Force photo)

